



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,274	05/10/2001	Kazunori Ozawa	Q64424	5444

7590 08/05/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3202

[REDACTED] EXAMINER

SMITS, TALIVALDIS IVARS

ART UNIT	PAPER NUMBER
2655	4

DATE MAILED: 08/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No. <b>09/852,274</b>  Examiner <b>Talivaldis Ivars Smits</b>	Applicant(s) <b>Kazunori Ozawa</b>  Art Unit <b>2655</b>	
---	--	---

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1)  Responsive to communication(s) filed on \_\_\_\_\_.
- 2a)  This action is FINAL.      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

- 4)  Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-18 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on May 10, 2001 is/are a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12)  The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13)  Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some\* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a)  The translation of the foreign language provisional application has been received.
- 15)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1)  Notice of References Cited (PTO-892)      4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)      5)  Notice of Informal Patent Application (PTO-152)
- 3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 and 3      6)  Other: \_\_\_\_\_

## **DETAILED ACTION**

### *Specification*

1. The Abstract of the disclosure is objected to because:
  - element values are not enclosed in parentheses, and
  - “every sets” in line 6 should be --every set--.

Correction is required. See MPEP § 608.01(b).

2. The Title of the invention is not sufficiently descriptive. A new title is required that is more clearly indicative of the novelty in the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 7, 8, 10-13, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jean-Pierre Adoul *et al.* (U.S. Patent 5,754,976, issued May 19, 1998).

Adoul *et al.* teach speech coding comprising:

- calculating spectral parameters (LPC coefficients, Fig. 1, element 102);

- converting them into impulse responses (synthesis filter, Fig. 1, element 105);
- representing an excitation signal by a combination of a plurality of pulses having nonzero amplitudes and implies quantizing them by use of said synthesis filter (col. 2, lines 50-58);
- by calculating the distortion between each of the plurality of pulses (implied by optimizing controller, Fig. 1, element 109);
- outputs judgment codes representative of the selected set of pulses (best codevector, col. 13, lines 25-26); and
- multiplexes the various speech coding parameters (col. 8, lines 16-20).

Adoul *et al.* do not calculate a residual signal by use of an adaptive codebook, but instead use a long-term predictor (Fig. 1, element 106). However, an artisan at the time of invention would have known that an adaptive codebook. The examiner takes Official Notice that it would have been obvious to one of ordinary skill at the time of invention to use an adaptive codebook in connection with the extracted with Adoul *et al.*'s extracted pitch value (Figure 1, element 104), rather than the long-term predictor of Adoul *et al.*, because this is notoriously well-known to be a more convenient way to handle the pitch portion of the excitation signal (Therefore, CELP coders nowadays use plural excitation codevectors selectively chosen, according to the speech signal properties (speech mode), from adaptive, stochastic, and pulse codebooks).

As per claims 8 and 17, an artisan at the time of invention would have known that they recite the obvious decoders for the coders in claims 1-4, which thus are also rejected over Adoul *et al.*.

5. Claims 5, 6, 9, 14, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jean-Pierre Adoul *et al.* (U.S. Patent 5,754,976, issued May 19, 1998) in view of Paul Mermelstein (U.S. Patent 6,249,758, filed June 30, 1998).

Adoul *et al.* do not teach judging (determining) a speech signal mode by extracting features from the speech signal. However, Aoyagi *et al.* do (“coding speech signals by making use of voice/unvoiced characteristics of the speech signal”, Title). Therefore, it would have been obvious to one of ordinary skill at the time of invention to judge the speech signal mode so as to best code the excitation for the particular speech frame in terms of the code vectors.

The rest of the elements in these claims are the same and similar to those in claims 1-4, 7, 10-13, and 16, above, and thus are rejected for the same reasons.

As per claims 9 and 18, an artisan at the time of invention would have known that they, recite the obvious decoders for the coders in claims 5-6, which thus are also rejected over Adoul *et al.* in view of Mermelstein.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hiromi Aoyagi (U.S. Patent 5,752,223, issued May 12, 1998), Harprit S. Chhatwal (U.S. Patent 5,717,824, issued February 10, 1998), and also applicant himself (U.S. Patent 5,884,252, issued March 16, 1999, more than a year before the foreign priority date of the instant

application) also teach using plural codebooks for speech coding, including adaptive and pulse codebooks, chosen based on properties (mode) of the speech to be coded.

**7. Any response to this action should be mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
(non-fee Amendments should be directed to: Mail Stop Non-Fee)

**or FAXed to:**

(703) 872-9314 (please label *formal* communications  
“**OFFICIAL**”; please label *informal* or draft communications,  
“**PROPOSED**” or “**DRAFT**”)

Hand-delivered responses should be brought to Crystal Park 2, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

**8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, Talivaldis Ivars Smits, whose telephone number is (703) 306-3011. The examiner can normally be reached Mondays-Fridays from 8:30 a.m. to 5:00 p.m.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H. To, can be reached on (703) 305-4827. The facsimile phone number for Technology Center 2600 is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 2600 customer service, whose telephone number is (703) 306-0377.

Application/Control Number: 09/852,274  
Art Unit: 2655

Page 6



TALIVALDIS IVARS ŠMITS  
PRIMARY EXAMINER

Art Unit 2655  
July 31, 2003